A study of ubiquitous technologies in higher education in Hong Kong

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A Study of Ubiquitous Technologies in Higher Education in Hong Kong

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History:

- Early 2010 approached by our new TLC Director Dr. David Kennedy to join his project “A Study of Ubiquitous Technologies in Higher Education in Hong Kong.

- This research adopts the position that mobility is an intrinsic property of learning encompassing the:
  - Spatial (university, workplace, home)
  - Temporal (days, evenings, weekends)
  - Developmental (learning needs, life skills, interests, employment, etc.)
As technology continues to change educational landscape on daily basis, students expectations on how and when they will learn is creating increasing demands on all aspects of their learning.

In 2010, ownership of mobile devices in Hong Kong reached an unbelievable level of 171%, (OFTA,2010) with that in mind, educators like myself have been researching on how to incorporate these devises for use in the classroom.
The Project:

- With funding provided by the UGC, 18 iPhone 4 devices were purchased for use in my Advanced Public Speaking & Presentation class. We chose this class for 3 reasons:

1. Small: limited to 16-2\textsuperscript{nd} & 3\textsuperscript{rd} year students
2. Diverse: class makeup consists of 30% local & 70% mainland/international students
3. English language requirement: students must display above average English ability (course requirement)
Research Method:

- Mixed mode approach to generative qualitative and quantitative data about the use of mobile technologies in higher education.

Pedagogical Model:

- Highlights the affordances of mobile devices that support student learning.
- Generate data highlighting the impact of mobile devices on student learning.
- Generate data on the impact of student motivation using mobile devices.
- Establish guidelines to support mobile learning opportunities, in and out of the classroom.
- To create a set of digital resources and exemplars of good practice.
Project Objectives:

- Long-term Impact: Identify key issues and problems being addressed, and state the possible outcome of the research project in terms of relevance, significance and value.

- Today’s younger generation, more than any other group of individuals have been ready acceptors of mobile technologies such as mobile phones, tablets, net & notebooks, iPods, digital cameras, etc.
These days however, many of these devices have taken on a new form: “The Smart Phone” (Zheng & Ni, 2006). Today these mobile devices are more powerful than computers 10 years or older and offer its owner the ability to connect to virtually anyone via the Internet; display & play a variety of media (video, audio, doc., pdf, etc.), and capture video, audio & photographs.
The world is moving very rapidly to engage with the opportunities and flexibility offered by mobile technologies (Fenn & Linden, 2005, Crawford, in press; Churchill & Hedberg, in press; Vogel, Kennedy & Kwok, 2007) nowhere is this more evident that in higher education.

As major universities move from a traditional face-to-face teaching environment to a blended or completely online mode of transmission, there is no doubt that technology had changed the educational landscape forever.
The research questions for this project are:

- What pedagogical models best describe and support student learning in higher education at Lingnan University using small mobile learning devices (SMD)?
- What is the impact of SMD on student learning outcomes?
- What is the impact on student motivation when provided with SMDs for personal learning?
- What are the pedagogical barriers to using SMDs in higher education?
- What are the technical barriers to the successful implementation of SMDs in higher education in Hong Kong?
The research will focus on undergraduate’s use of mobile devices both in and out of the classroom.

The outcomes are expected to contribute to a better understanding of how ubiquitous personalized mobile devices can contribute to improve learning outcomes in undergraduate and higher education in Hong Kong.
The Course:

- Advanced Public Speaking & Presentations – LCE202
  - This course is designed to improve student’s presentation skills by helping them develop proper public speaking skills & presentation construction techniques.
  - Enrollment is limited to 16 students max per semester
Course materials are provided free and online via Moodle.
Four assessments, each worth 25% of the students final grade:

- Hot Topic Speech – 3-5 min w/max of 3 visuals
- Informative 1 (cue cards/no podium)– 5-7 min w/max of 3 visuals
- Informative 2 (speaking outline/podium) – re-assessed version of Informative 1 speech
- Persuasive Speech – 10-13 min No visual support, (cue cards or speaking outline) w/Q & A
All assessments video taped and put on YouTube for self evaluation/feedback
All lectures videotaped and available for review online. (Lecture Capture)
Implementation:

- All students from Fall 2010 were provided with an iPhone 4 pre-loaded with the following apps:

*From fall 2011 students without a Smart Phone were provided with an iPhone. (mixed mode class of Apple & Android devices)
Instructional videos were produced and placed on our YouTube channel to help students learn how to use these apps.
In Class:

- Students utilized the devices in class to:
  - Review course materials
  - Take notes
  - YouTube to place feedback, comments, etc.
  - Record audio/video lecture notes
  - Video record practice sessions for further review
  - Use eClicker & Twitter to vote and provide feedback on topics, speeches, etc.
  - Use dictionary & translate functions, etc.
  - Use device as cue cards when performing speech
Out of Class:

- Students were required to use the devices to support their coursework as follows:
  - Use the device to research topics, etc.
  - Use the device to video tape interviews
  - Use the device to communicate with peers/instructor
  - Students were further required as part of their participation in the project to report on app usage, both preinstalled and downloaded.
Findings to Date:

- Students preferred the following Apps:
  - **Social Network**: FaceBook,
  - **Communication**: Twitter, Skype, KakaoTalk, WhatsApp, Weibo, SMS
  - **Entertainment**: YouTube, Web Browser (Internet Surfing)
  - **News Portal**: Yahoo, BBC, CNN
  - **Photography**: Pudding Camera, iPhone Camera
  - **Language Apps**: Dictionary.com, Google Translate, Oxford Dictionary
  - **Other**: Evernote, DropBox, Winc
How often do you use iPhone to keep contact with classmates? (i.e. calls, SMS, Twitter, MSN, Facebook, Skype)
How often do you use iPhone to keep contact with lecturer? (i.e. calls, SMS, Twitter, MSN, Facebook, Skype)
How often do you use iPhone Apps?

- 86% never
- 7% once a week
- 4% 2-3 times a week
- 3% once a month
- 0% 2-3 times a month
- 0% less than once a month
- 0% daily

Legend:
- Never
- Less than Once a Month
- Once a Month
- 2-3 Times a Month
- Once a Week
- 2-3 Times a Week
- Daily
iPhone Apps help me improve my English? (e.g. writing, speaking, listening, reading)
iPhone Apps help me with my studies?

- Strongly Disagree: 32%
- Disagree: 7%
- Neither Agree nor Disagree: 7%
- Agree: 54%
- Strongly Agree: 0%
I find having my iPhone in class useful for my learning.
How often do you use iPhone for academic work e.g. download materials, watch video of past lectures, podcasts (e.g., Grammar Girl), or reading, discussion.
What Apps do you use the most?

- Twitter
- MSN
- Facebook
- Camera
- Video
- Browser
- Evernote
- Dropbox
- iBook
- Winc
- Other

Other:

- Skype
- Face Time
- Youtube
- eclicker
- SMS
- Other:
How often do you use iPhone for extended social activities e.g. social discussions (Twitter, MSN, IM), sharing pictures/videos or organising events.
How often do you use iPhone for entertainment e.g. listen music, video, games *

- 75% Never
- 14% 2-3 Times a Month
- 4% Once a Week
- 7% 2-3 Times a Week
- 0% Daily
- Less than Once a Month
What kinds of extra apps did you download?
Lessons Learned:

- Throughout this project students seemed genuinely involved with the technology.
- Most embraced it some loathed it.
- Students need direction – Example: most were unaware of what Twitter is and how to benefit from using it in and out of the classroom.
Survey results show that 75% felt the online materials provided via Moodle adequately prepared you for their lectures while 25% replied somewhat.

However, when asked if they prefer print or e-book/materials 63.2% preferred textbooks.

Presumably, if a larger device like the iPad was used, this number may change, as the iPhone is not suitable for reading large chunks of information.
Distractions – having these devices on allows students to do others things, such as Facebook, check email, SMS, etc. during class time.

e-Clicker (now e-Presenter) allowed me to take control of these devices by having polls and questions sets during the class.

All students had to be connected to my computer in order to participate and thus could not access the Internet.
The Future:

- With the introduction of larger devices such as the iPad, our research has begun to transform.

- Our TLC has acquired 30 iPad2 which are currently being used in an English Department writing course and CEAL is purchasing 80 iPad3’s to be used in pairs during class time.

- By focusing more on curriculum design and student collaboration, we will be able to focus more on pedagogical advantages rather than logistical ones.